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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/056,546 | 01/24/2002 | Sankar Basu | YOR920020018 | 8796 |

48813 7590 09/21/2006

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| EXAMINER |
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DEBROW, JAMES J

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| ART UNIT | PAPER NUMBER |
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2176

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|-------------------------------|-----------------------------|--|
| Office Action Summary | Application No. 10/056,546 | Applicant(s) BASU ET AL. | |
| | Examiner James J. Debrow | Art Unit 2176 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: Amendment filed 6/27/2006.
2. Claims 1-28 are pending in the case. Claims 1, 16, and 22 are independent claims.

Applicant's Response

3. In Applicant's response dated 6/27/2006, Applicant amended independent claims 1, 16, and 22. Applicant argued against all objections and rejection previously set forth in previous Office Action.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-23, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubler et al. (US 6,804,684, B2; filed 5/7/2001) (hereinafter "Stubler") in view of Nolan et al. (Patent No.: 5,253,362; Date of Patent: Oct. 12, 1993) (hereinafter "Nolan").**

Regarding independent claim 1, 16, and 22, Stubler teaches *actively selecting examples of multimedia content to be annotated by a user and accepting input annotations from the user for the selected examples* in fig. 2, fig. 6-7, col. 3 line 46 – col. 4 line 12, col. 8 lines 18-23, and col. 9 line 65 – col. 10 line 18. Stubler teaches *propagating the input annotations to other instances of multimedia content and storing the input annotations and the propagated annotations* in fig. 2, col. 3 line 46 – col. 4 line 12, and col. 8 lines 18-55.

Stubler does not teach *actively selecting examples of multimedia content to be annotated by a user, wherein the examples of multimedia content are selected based*

on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected.

However Nolan teaches *actively selecting examples of multimedia content to be annotated by a user, wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected* (col. 5, lines 50-56; col. 6, lines 13-21; Nolan teaches a list predefined commonly used annotation for which the nurse can select from. Using the broadest interpretation of Nolan's teaching, the Examiner concludes that the list of annotations would inherently be comprised of annotation examples, which are the most ambiguous.).

Stubler teaches in col. 2 line 59 – col. 3 line 10 that it is directed towards propagating annotations from stored images to similar images that have not yet been annotated. Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to combine Stubler with Nolan's teaching of providing a list of commonly used annotation examples for the benefit of *achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected.*

Regarding dependent claims 2 and 17, Stubler teaches wherein the step of actively selecting is performed using a selection technique from the group consisting of deterministic and probabilistic in col. 4 line 64 – col. 5 line 19.

Regarding dependent claims 3 and 18, Stubler teaches wherein the step of actively selecting which is performed deterministically or probabilistically, is based on

explicit models and feature proximity/similarity measures, and returns one or more examples of multimedia content to be annotated in fig. 2 and col. 8 lines 18-55.

Regarding dependent claims 4 and 19, Stubler teaches wherein the step of actively selecting, which is performed deterministically or probabilistically, is based on implicit models and feature proximity/similarity measures, and returns one or more examples of multimedia content to be annotated in fig. 2 and col. 8 lines 18-55.

Regarding dependent claims 5 and 20, Stubler teaches wherein an optimization criterion for active selection includes one or more criteria selected from the group consisting of: information measures and confidence in fig. 2 and col. 8 lines 18-55.

Regarding dependent claims 6 and 21, Stubler teaches wherein the multimedia content comprises one or more types selected from the group consisting of: images, audio, video, graphics, text, multimedia, Web pages, time series data, surveillance data, sensor data, relational data, and XML data in col. 3 line 46 – col. 4 line 12.

Regarding dependent claim 7, Stubler teaches wherein the input annotations are created by a user with reference to a vocabulary in col. 3 line 46 – col. 4 line 12 and col. 8 lines 18-23.

Regarding dependent claim 8, Stubler teaches wherein the vocabulary contains one or more items selected from the group consisting of: terms, concepts, labels, and annotations in col. 3 line 46 – col. 4 line 12 and col. 8 lines 18-23.

Regarding dependent claim 9, Stubler teaches wherein the process of creating input annotations by the user involves multimodal interaction with the user using graphical, textual, and/or speech interface in fig. 2 and col. 3 line 46 – col. 4 line 12.

Regarding dependent claim 10, Stubler teaches wherein the input annotations are created by means of steps selected from the group consisting of: creating new annotations, deleting existing annotations, rejects proposed annotations, and modifying annotations in fig. 6-7 and col. 9 line 65 – col. 10 line 18.

Regarding dependent claim 11, Stubler teaches wherein the vocabulary is adaptively or dynamically organized and/or limited by the system of the user in fig. 6-7 and col. 9 line 65 – col. 10 line 18.

Regarding dependent claim 12, Stubler teaches wherein the multimodal interaction involves speech recognition, gaze detection, finger pointing, expression detection, and/or effective computing methods for sensing a user's state in fig. 6-7 and col. 9 line 65 – col. 10 line 18.

Regarding dependent claim 13, Stubler teaches wherein the determination of the propagation of annotations is made deterministically or probabilistically and on the use of models for each annotation or for joint annotations in col. 4 line 64 – col. 5 line 19.

Regarding dependent claim 14, Stubler teaches wherein the models are created or learned automatically or semi-automatically and/or are updated adaptively from interaction with the user in fig. 2, col. 3 line 46 – col. 4 line 12, and col. 8 lines 18-55.

Regarding dependent claim 15, Stubler teaches wherein the models are based on nearest neighbor voting or variants, parametric or statistical models, expert systems, rule-based systems, or hybrid techniques in fig. 2, col. 3 line 46 – col. 4 line 12, and col. 8 lines 18-55.

Regarding dependent claims 23, 25, and 27, Stubler does not teach *wherein that at least one criterion includes an ambiguity level of the selected examples*.

However Nolan teach *wherein that at least one criterion includes an ambiguity level of the selected examples*. (col. 5, lines 50-56; col. 6, lines 13-21; Nolan teaches a list predefined commonly used annotation for which the nurse can select from. Using the broadest interpretation of Nolan's teaching, the Examiner concludes that the composition of the list of annotations examples would inherently be comprised of at least one criterion that includes an ambiguity level of the selected examples.).

Stubler teaches in col. 2 line 59 – col. 3 line 10 that it is directed towards propagating annotations from stored images to similar images that have not yet been annotated. Therefore, at the time of the invention it would have been obvious to a person of ordinary skill in the art to combine Stubler with Nolan's teaching of providing a list of commonly used annotation examples for the benefit of *achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected*.

6. Claims 24, 26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stubler et al. (US 6,804,684, B2; filed 5/7/2001) (hereinafter "Stubler") in view of Nolan et al. (Patent No.: 5,253,362; Date of Patent: Oct. 12, 1993) (hereinafter "Nolan") further in view Toyama, (US 6,816,847 B1 filed 9/23/1999).

Regarding dependent claims 24, 26, and 28, Stubler in view of Nolan does not teach wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space. Toyama discloses the use of support vector machines in col. 6 lines 10-50. Toyama discloses wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space in col. 5 lines 15 – col. 6 line 50.

Stubler teaches in col. 2 line 59 – col. 3 line 10 that it is directed towards propagating annotations from stored images to similar images that have not yet been annotated. Toyama teaches in col. 1 line 47 – col. 2 line 14 that it is directed towards propagating annotations from a known training set to similar images that have do not have any associated annotations. Thus, the field of endeavor is very similar for Stubler in view of Nolan and Toyama. It would have been obvious to one of ordinary skill in the

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art at the time the invention was made to have combined the teachings of Stubler in view of Nolan and Toyama to have created the claimed invention. It would have been obvious and desirable to have used the active selection techniques disclosed by Toyama in col. 5 lines 15-46 to have improved the active selection of images to be annotated as taught by Stubler in view of Nolan so that a maximal disambiguation result could have been achieved as is the reason for a Toyama selection of a wide variety of images in col. 5 lines 30-32 and a wide variety of annotations for the images in col. 5 lines 32-46.

Response to Arguments

7. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection. New ground(s) of rejection are based on newly found prior art reference of Nolan. An explanation of the rejection is given.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Debrow whose telephone number is 571-272-5768. The examiner can normally be reached on 8:00-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JAMES DEBROW
EXAMINER
ART UNIT 2176

A handwritten signature in black ink, appearing to read "Doug Hutton", with a stylized, cursive script.

DOUG HUTTON
PRIMARY EXAMINER
TECH CENTER 2100